



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE
OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

FRIDAY, JULY 31, 1908

CONTENTS

<i>The Teaching of Mathematics for Engineers:</i>	
CHAS. F. SCOTT	129
<i>The Point of View in Teaching Engineering Mathematics:</i>	
PRESIDENT R. S. WOODWARD	134
<i>The Chicago Academy of Sciences:</i>	
FRANK C. BAKER	138
<i>The Lloyd Library and Museum</i>	141
<i>Lehigh University and the University of Liverpool</i>	141
<i>Scientific Notes and News</i>	142
<i>University and Educational News</i>	145
<i>Discussion and Correspondence:</i>	
<i>Meaning of the Spanish Word Gavilan:</i>	
DR. C. HART MERRIAM	147
<i>Quotations:</i>	
<i>Professors' Salaries</i>	147
<i>Scientific Books:</i>	
<i>Spencer on The Falls of Niagara:</i> DR. G. K. GILBERT.	
<i>Yerkes's The Dancing Mouse:</i>	
PROFESSOR JOHN B. WATSON	148
<i>Special Articles:</i>	
<i>The Essential Meaning of d'Alembert's Principle:</i> PROFESSOR FREDERICK SLATE.	
<i>Some Apple Leaf-spot Fungi:</i> DR. CARL P. HARTLEY.	
<i>A Cycad from the Upper Cretaceous in Maverick County, Texas:</i> PROFESSOR J. A. UDDEN	154
<i>Societies and Academies:</i>	
<i>The Torrey Botanical Club:</i> PROFESSOR C. STUART GAGER	160

MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y., or during the present summer to Wood's Hole, Mass.

THE TEACHING OF MATHEMATICS FOR ENGINEERS¹

MATHEMATICS, from the standpoint of the engineer, is a means, and not an end. It is an instrument or tool by which he may determine the value and relations of forces and materials.

The usefulness of tools depends upon the sort of work which is to be done, upon the kinds of tools which are available and upon the skill of the man who uses them. We may inquire, therefore, what are the uses to which the engineer may apply mathematics? What kind of mathematics does he need? And what skill should he possess in their use?

First, then, what work is to be done by the young men who are now taking engineering courses? A few—and only a few—will be original investigators or designers who will need mathematics as an instrument of research. A considerable number will regularly employ elementary mathematics in more or less routine calculations. Many will have little use for mathematics, as engineering courses are recognized as affording excellent training for various business, executive and other non-technical positions, particularly in connection with manufacturing and operating companies. It has been stated by the vice-president of a large electric manufacturing company that not over ten per cent. of the technical graduates employed by that

¹ Read before Sections A and D of the American Association for the Advancement of Science and the Chicago Section of the American Mathematical Society, at the Chicago meeting, December 30, 1907.